



**Motorcycle
Electronic Cruise Control
Installation Manual ©**

**For Honda Goldwing
GL1200**

7 June, 1999

**Manufactured by -
MotorCycle Setup Pty. Ltd.
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MotorCycle Setup Pty. Ltd.

Electronic Cruise Control Installation Manual ©

To suit Honda GL1200

This cruise control was developed on a 1987 GL1200 Interstate. Every effort has been made to ensure complete compatibility with other years and models of GL1200 but this cannot be guaranteed at this time. If difficulties are experienced due to differences on other models, please contact your dealer or MotorCycle Setup in Australia by phone on (03) 98082804 or fax on (03) 98082445 or internationally by phone on 61 3 98082804 or fax on 61 3 9808 2445 or email us at mcsetup@netlink.net.au for assistance.

Your electronic cruise control has been adapted from an Australian designed, automotive cruise control specifically to suit your motorcycle. Months of testing have resulted in changes to the electronic circuitry to deliver safe, reliable operation on the motorcycle models listed above. It is essential that you install the correct kit to your motorcycle and follow the installation instructions precisely so that electrical interference does not cause the unit to behave erratically or be rendered inoperative.

WE STRONGLY RECOMMEND AGAINST FITTING OFF-THE-SHELF MOTOR CAR CRUISE CONTROLS TO ANY MOTORCYCLE!

If, after reading these instructions, you feel you are not competent to install this kit, we strongly urge you to seek the assistance of one of our authorised dealers and installers. Please phone or email us to obtain the name of your nearest outlet.

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1. INTRODUCTION

Congratulations, you have purchased one of the most advanced cruise control systems in the world - and the first after-market electronic cruise control kit adapted to motorcycles. Your new cruise control has more operating features than many units costing much more. All functions are microprocessor controlled, which reduces the complexity of installation.

Before installing your cruise control, take the time to read and understand each installation step in this manual. Several steps are dependent on others, so it is important know where and how each component is to be mounted before installation commences.

Your kit has been designed for a specific motorcycle. Even if you have installed kits before, take note of where and how components should be installed - particularly the wiring harness layout and connections.

2. WARNINGS, CAUTIONS and NOTES

This manual contains several **cautions**, **warnings** and **notes**, which are prominently displayed. The convention used is:

A **warning** applies whenever injury could result from ignoring the warning;

A **caution** applies whenever damage to the bike or cruise control could result from ignoring the caution; and

A **note** applies where other aspects should be considered before any action to do with installation is undertaken.

EXAMPLES:

WARNING: Always ensure the bike is properly supported on the side or centre stand and cannot accidentally fall off either stand.

CAUTION: Before drilling any holes, make sure there are no components that may be damaged on the other side of the surface being drilled. Double check for any wiring harness which might be easily damaged by a drill bit.

NOTE: Lay the wiring harness in place and connect the components before cable tying the harness in place.

3. TOOLS REQUIRED

- Standard metric socket and spanner set ;
- Phillip's head screwdriver;
- Flat blade screwdriver;
- Long nose pliers;
- Metric Allen key set – preferably with a 'ball end';
- Loctite 243 or 222;
- Flat file & a vice with soft jaws or a rag, or a grinder or sandpaper.

4. PARTS LIST

Check that all components depicted in the parts list at the rear of this manual are included in the cruise control kit. Please phone your dealer or (03) 9808 2804 within Australia, international (61 3) 9808 2804 or fax (61 3) 9808 2445 for advice, if any parts are missing;

5. OVERVIEW OF CRUISE CONTROL OPERATION

The principles behind your cruise control's operation are very simple:

- The computer continuously monitors the frequency of electrical pulses generated by magnets passing the sensor;
- When the SET key on the switch is pressed the computer stores the pulse frequency at the time in memory and then continuously adjusts the vacuum actuator, which controls the carburettors to maintain the pulse frequency at the same figure to which it was set. If the frequency drops below the set frequency, the computer applies more throttle. If the frequency is above the set frequency, the computer turns the throttle off. The key is that the computer monitors and reacts to changes very quickly and smoothly so that the speed effectively remains nearly constant.

There are seven major components in your kit: the computer, the vacuum actuator, the cable interface unit, the speed sensor, the switch, the loom and the ECS (Electronic Clutch Switch). The functions of each are described below:

- the computer - monitors road speed, adjusts the throttle by controlling the vacuum actuator, monitors the switch and brake system for instructions from these components;
- the vacuum actuator - controls the carburettors by pulling or releasing a cable which attaches to the carburettors via the cable interface unit (CIU);
- the CIU - translates the motion from the throttle grip and the vacuum actuator to the carburettors via a new cable supplied in the kit;
- the speed sensor - generates electrical pulses when the bike is in motion;
- the switch - sends instructions from the rider to the computer;
- the electrical loom - which connects the switch, the computer, the vacuum actuator, the sensor and the brake system.
- The ECS - monitors engine speed through the ignition system and disengages the cruise control if a rapid increase in engine revs occurs - for example, if the clutch is operated accidentally while the cruise control is engaged.

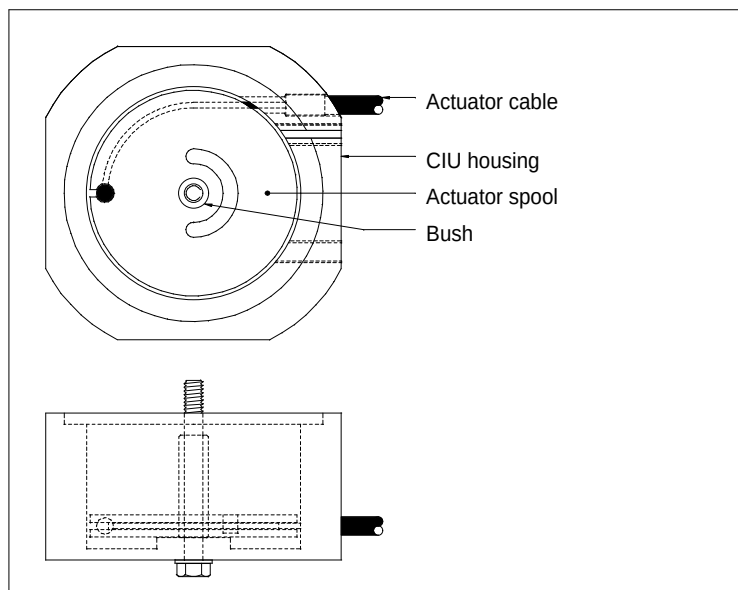
The cable interface unit is a new component developed and patented by MotorCycle Setup and is the key to safe cruise control operation on motorcycles. An understanding of how it works should help you avoid making mistakes during installation.

The following diagrams show the basic assembly procedure and operating principles of the cruise control Cable Interface Unit (CIU). The actual entry points of cables and the direction of rotation may differ depending on the model of the motor cycle, but the principles involved remain the same. Specific assembly instructions are provided later within this manual.

In order to improve the clarity of the diagrams, the multiple holes in the dual spool have been omitted, with only the actual holes used for the cable nipples being shown.

1st step.

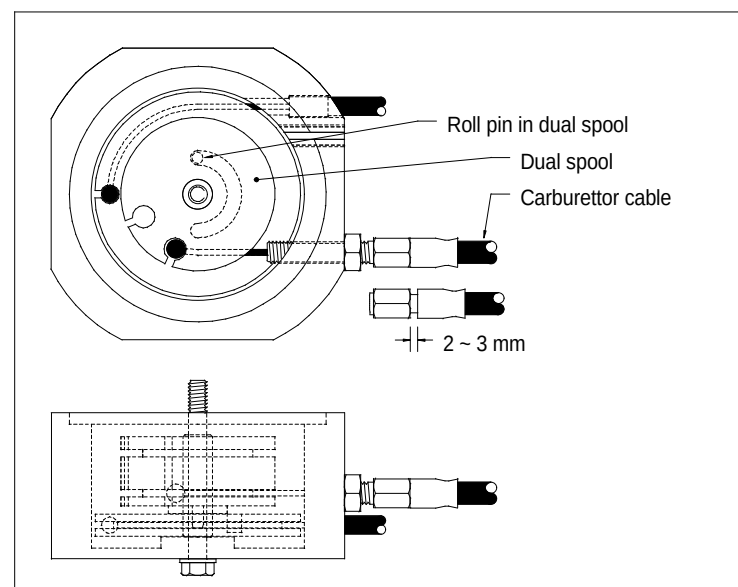
The actuator spool is installed in the CIU housing with the actuator cable. The actuator spool is rotated to fully extend the cable.



2nd step.

The dual spool and carburettor cable are installed. The carburettor cable is attached to the lower groove in the dual spool. The other end of the carburettor cable is attached to the carburetors.

Note the position of the roll pin. It is nearly contacting the end of the groove in the actuator spool. The free play in the carburettor cable must be adjusted so that the cable outer can be pulled out 2 ~ 3mm before the carburetors start to open. This ensures that the cruise control cannot prevent the carburetors returning to idle. If more free play is allowed the response of the cruise control is compromised.



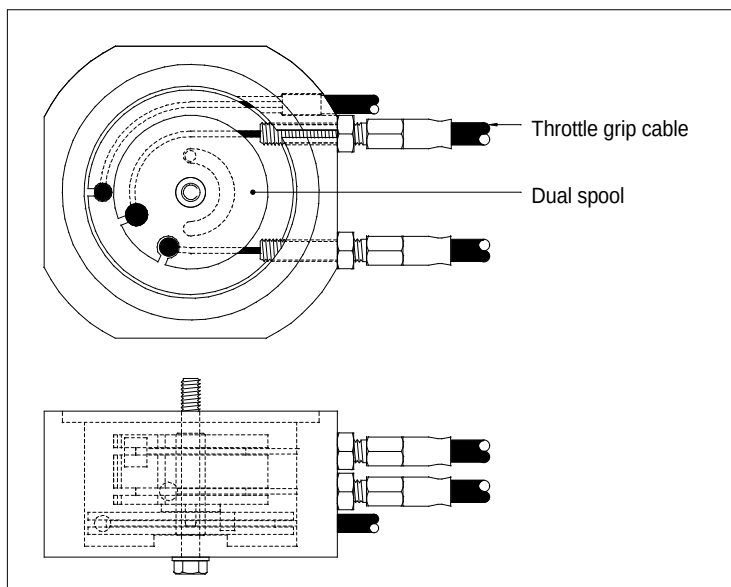
This adjustment of free play is usually performed after final assembly of the CIU is completed and the CIU is in its final location. This is because flexing the cable affects the free play. It is shown at this stage in these diagrams to improve clarity.

After this adjustment is performed, the carburettor cable adjustment **MUST NOT BE MOVED**. All future adjustments of free play in the throttle must be performed on the throttle cable from the throttle grip. If incorrect free play in the carburettor cable is suspected due to inconsistent cruise operation or because of inconsistent idle speed, the adjusters on the throttle cable from the hand grip must be backed all the way off to give as much free play as possible. If this does not result in **AT LEAST 5mm** of free play in the throttle cable, the throttle cable must be removed from the handgrip or CIU before adjustment of the carburettor cable is attempted. This is crucial because the amount of free play in the throttle cable also affects the apparent free play in the carburettor cable.

3rd step

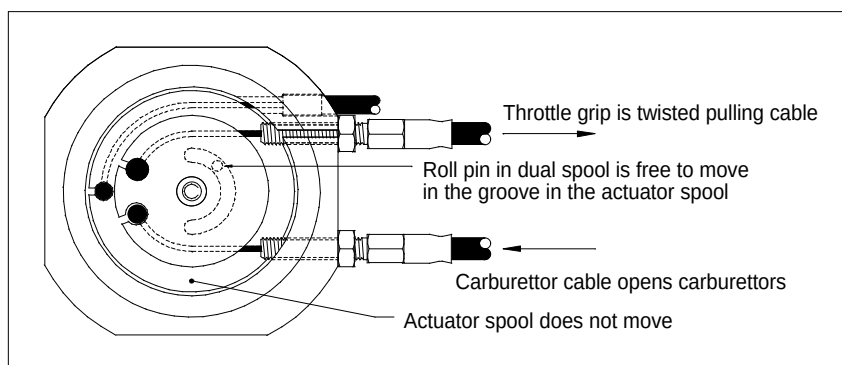
The throttle cable is installed. The throttle cable is attached in the upper groove in the dual spool.

Normally the end cap and retaining nut would be installed at this point. These items are not shown in order to improve clarity.

**Normal throttle operation**

During normal operation of the throttle, the throttle cable is pulled by twisting the throttle grip. This pulls on the dual spool and rotates it, thus pulling the carburettor cable and opening the carburetors.

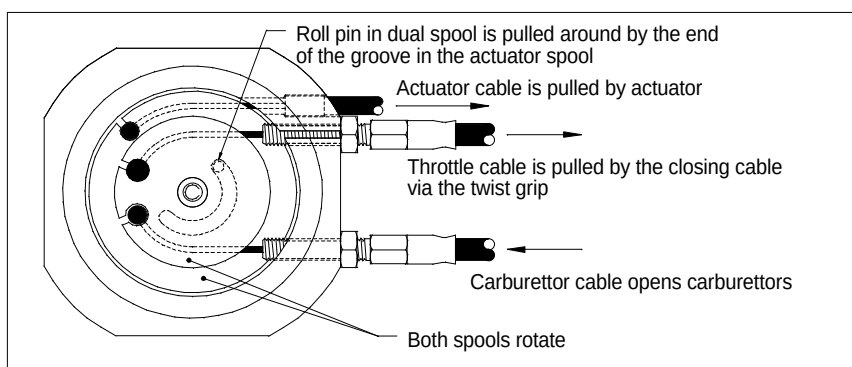
Because the roll pin is free to move in the groove in the actuator spool, this spool does not move. This reduces friction in the throttle system and prevents any possibility of jamming due to cables buckling when being pushed.

**Cruise operation**

During cruise operation the actuator cable pulls the actuator spool and rotates it. The end of the groove contacts the roll pin in the dual spool, rotating the spool and pulling the carburettor cable.

When the carburetors open the closing cable on the carburetors is pulled. This results in the twist grip rotating once all the free play is taken out of all the cables.

As a result, the rider will notice the twist grip moving while the cruise is operating.



It is possible to roll the throttle off by hand, thus opposing the cruise control actuator. As this will result in a loss of speed the cruise control computer will 'read' this as the bike going up an incline, and attempt to apply more throttle. If the twist grip is released again, it is possible for the throttle to go immediately to full throttle. While the throttle will back off again as soon as the set speed is reached or if the rate of acceleration exceeds the cruise controls preset rate (1 ~ 2 km/h gain in speed per second), the initial acceleration could be quite violent. As a result, we do not recommend manually forcing the throttle off while the cruise control is engaged.

Honda Goldwing GL1200 ©

If the throttle grip is twisted open while the cruise control is engaged the cruise control is over ridden by the rider. When the throttle is released, the cruise control will resume control, unless it has been disengaged by brake operation or if the motor cycle exceeds the current set speed by 150% such as during an overtaking manoeuvre. The cruise will also disengage if the speed drops to 75% of set speed such as when riding up hill. This is unlikely to occur on large capacity motorcycles.

6. PREPARING THE BIKE FOR CRUISE CONTROL INSTALLATION

Remove the following items from the motorcycle:

The seat;

The right and left side covers (covers for the battery on the left and rear brake fluid on the right);

The left and right fairing lower panels and the small trim panel under the radiator;

The top compartment cover (dummy fuel tank):

The opening (pull) throttle cable must be disconnected from the carburettors. This operation is much easier with the air filter housing removed from the motorcycle.

We strongly recommend that disassembly of the bike be undertaken with the assistance of a workshop manual, particularly on models with radio equipment fitted in the top compartment.

The following instructions may be used to remove these items.

Seat removal.

Remove the lids on the pannier bags. Loosen and remove the Allen head screw holding the seat adjusting lever in place on the left side of the seat. The lever is about 170mm (7") behind the top shock absorber mount. Loosen and remove the Allen head screw on the right side of the seat.

Slide the seat back to disengage the tag at the front of the seat, then lift the seat off.

Some models may have the seat adjusting lever at the front of the seat, accessible through the fuel filler opening. If this is the case, the lever must be released to allow the seat to be moved back.

Side cover removal.

Both side covers can be removed by pulling outwards to disengage the three mounting lugs. Be careful not to break the mounting lugs during removal.

Fairing lower panel removal.

The fairing lower panels are held on by five screws each. Loosen and remove these screws then remove the panel.

There is two screws at the front edge of the panel, one top, one bottom. There is one screw inside the dummy air vent near the top. There are two screws at the back edge of the panel, one in the rear air vent near the top and one at the bottom of the panel. This last screw is partially hidden by the chrome cover over the spark plugs.

The fill panel under the radiator is held in by the two lower panels and can be removed after one of the fairing panels has been removed.

Top compartment removal.

Open the compartment cover and remove the tool tray.

Remove both fairing pocket covers.

Remove the mounting screws securing the pockets and remove both fairing pockets.

Remove the rubber covers on the inside of the fairing pockets (fill panel between the dashboard and the top compartment cover. These rubber covers can be pulled up to disengage the mounting lugs. Be careful not to damage the covers during removal.

Refer to your workshop manual for removal instructions of any electrical items mounted in the top compartment.

Remove the four bolts that secure the top compartment cover, two at the top front of the compartment and two at the bottom rear of the compartment.

Note:- Access to the throttle cable at its attachment point to the carburetors is easier with the air filter housing removed from the bike. This is not essential, but will make the job much easier.

Air filter housing removal.

Pull the fuse box out of the clip on the top of the air filter housing and set it aside.

Pull the breather hose out of the top of the air box and filter element.

Loosen and remove the wing nut on the top of the air filter housing and remove the top cover.

Remove the air filter element.

Loosen and remove the four screws holding the air filter housing to the carburettor plenum chamber and remove the air filter housing.

Disconnecting the throttle cable.

Disconnect the opening (pull) throttle cable from the carburetors. This is the top cable of the pair on the bracket that mounts to the carburetors. This will be easier to do if the engine breather hose is disconnected at the engine and pushed out of the way.

Back off the adjusters in the opening throttle cable all the way to give as much free play as possible. There are two adjusters, one at the throttle grip and an in line adjuster about 1/4 up from the carburettor end of the cable.

Lubricating the throttle cables and the throttle grip.

This is essential maintenance to reduce friction in the throttle system and to prevent corrosion in the cables.

Disassemble the right hand switch block and remove the hand grip from the handlebar. It may be necessary to loosen the brake lever assembly to allow access to the one of the three screws holding the right hand switch block together. Clean the bar and inside the hand grip.

Run 6 drops of light oil (sewing machine oil is ideal, NEVER use engine oil) down each throttle cable.

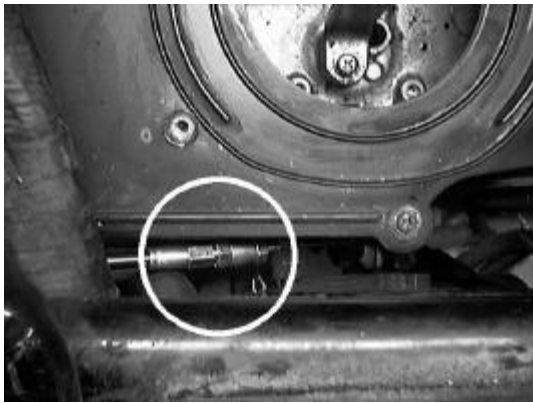
Place a thin bead of engine oil on the handlebar and replace the throttle grip on the bar. Spin the grip to spread the oil around.

Reassemble the throttle grip and switch assembly.

7. INSTALLATION

Installing the carburettor cable.

We recommend placing a drop of LOW strength thread locker, such as Loctite 242, on the threads of the adjuster on the new cable to lock the bottom lock nut in place.



Place the cylindrical nipple on the new cable supplied in the kit in the carburettor cable spool where the bikes original cable was attached. Position the adjuster on the cable bracket on the carburettors with one nut on each side of the bracket.

The top nut has been locked in place on the adjuster to make it easier to tighten the adjuster. Tighten the adjuster **GENTLY**. The adjuster is made of brass and will break if over tightened. We have had a couple of instances where the adjusters have broken during installation due to over tightening the adjuster. If thread lock compound is used on the lock nut, it is not necessary to over tighten the lock nut.

Reassemble the air filter housing and replace the fuse box in the holder.

Installing the actuator.

The actuator is mounted in the air cavity behind the radiator on the left side of the bike and uses the horn mounting bracket and the fairing frame as attachment points.

Disconnect the horn wires from the left side horn. Remove the horn mounting bolt and remove the horn.

If desired, tape can be wrapped around the fairing frame, at the point where the actuator mounts to the frame, to prevent paint damage.

Connect the long end of the vacuum hose supplied in the kit to the actuator hose barb. Make sure that the white end of the one way valve in the hose is facing the actuator.



Feed the actuator cable through the gap between the radiator cooling fan motor and the top radiator hose through to the right side of the bike.

When the actuator is in position, the nose of the actuator should be resting on the front edge of the radiator hose and should have a small amount of free movement between the radiator hose and the cooling fan motor. The radiator hose clamp may also touch the underside of the actuator nose.

It may be necessary to bend the actuator bracket slightly to ensure that the nose of the actuator has LIGHT contact with the radiator hose and will not vibrate against the fan motor or the radiator hose clamp.

Mount the actuator on the horn mounting tab using the original horn mounting bolt. We recommend the use of a low or medium strength thread lock compound on the bolt.



Undo the small hose clamp supplied in the kit and place it around the fairing frame and the tab on the actuator mounting bracket. Gently tighten the hose clamp so that the tab is clamped to the fairing bracket.

Installing the actuator vacuum hose.

The actuator uses engine vacuum to operate the throttle. It is necessary to remove one of the vacuum port blanking screws and replace it with an adaptor. Locate the vacuum port for the front left cylinder. It is partially hidden by the faring duct that covers the front left carburettor and is in the inlet manifold where it is attached to the cylinder head.

This duct and the bottom fairing trim panel can be removed by removing the single screw in the middle of the trim panel.



Remove the vacuum port blanking screw and store it as it will not be re-used. Install the vacuum port adaptor supplied in the kit. Be careful not to over tighten the fitting as it is made of brass and is easily broken by over tightening. The hex (nut) on the adaptor is 3/8".

Loop the actuator vacuum hose around the front of the actuator and down to the adaptor in the inlet manifold. Push the short end of the vacuum hose onto the adaptor just installed in the inlet manifold. Make sure that the white end of the one way valve in the hose is facing the actuator.



Replace the faring inner duct and trim panel.



Mount the horn on the actuator bracket using the M6 x 12 bolt, two 6mm flat washers and the M6 Nyloc nut provided. Connect the horn wires to the horn. They will be (just) long enough to reach the horn.

Routing the actuator cable.

Move to the right side of the bike.

Looking down from above the right side of the fairing, there is a space between the right fairing inner wall (next to the fairing pocket) and the bikes frame tube. The fairing frame bolts to the outside of the motorcycle frame near the radiator pressure cap. Feed the actuator cable up between the outside of the right side frame tube and the inside of the faring frame BEHIND the fairing frame mount.



Route the cable back over the coolant reservoir tank.

Installing the CIU.

The CIU (Cable Interface Unit) is mounted to the frame tube immediately behind the coolant reservoir tank.

Disassemble the CIU noting the positions of the components. DO NOT remove the mounting bracket. The parts list at the back of the instructions show the components in the relative locations if required.

Undo the hose clamp all the way and mount the CIU to the frame tube behind the coolant reservoir using the hose clamp. The frame tube may be wrapped with tape before mounting is desired to prevent scratching the paint. The hose clamp should wrap around the frame tube so that it is touching the cross tube behind the air filter housing.

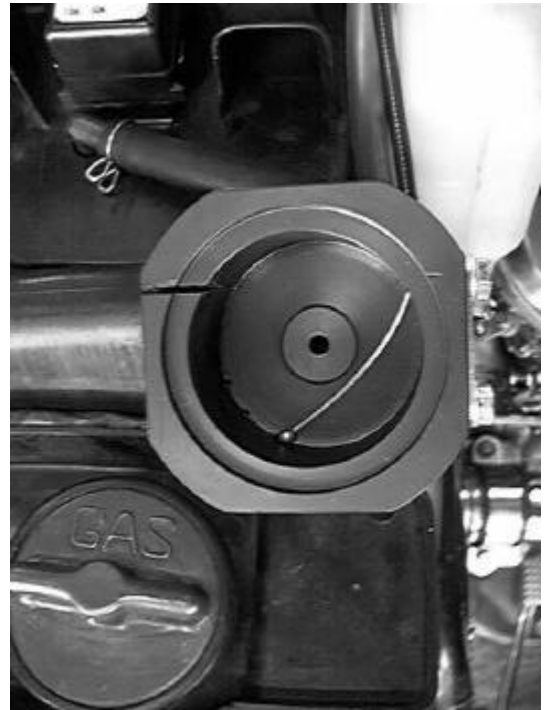


Before tightening the hose clamp, rotate the CIU to the left as far as it will go. The bottom left edge of the CIU should be just touching the plastic breather chamber in front of the fuel tank filler cap and under the CIU. This will allow a straight run for the actuator cable into the CIU past the coolant reservoir tank.

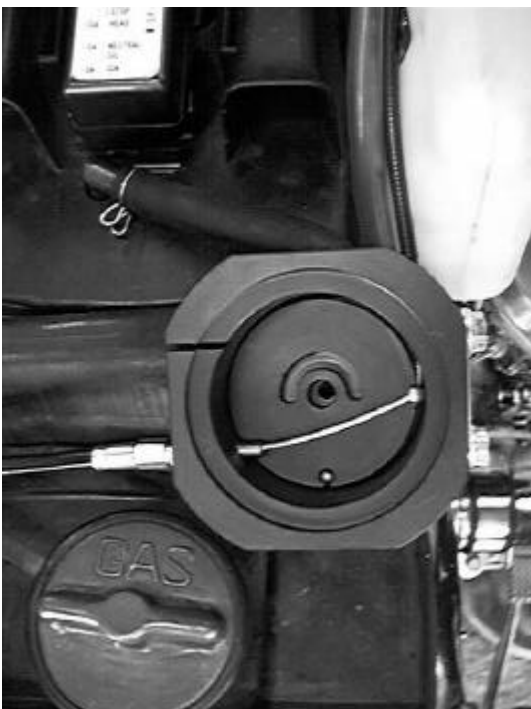
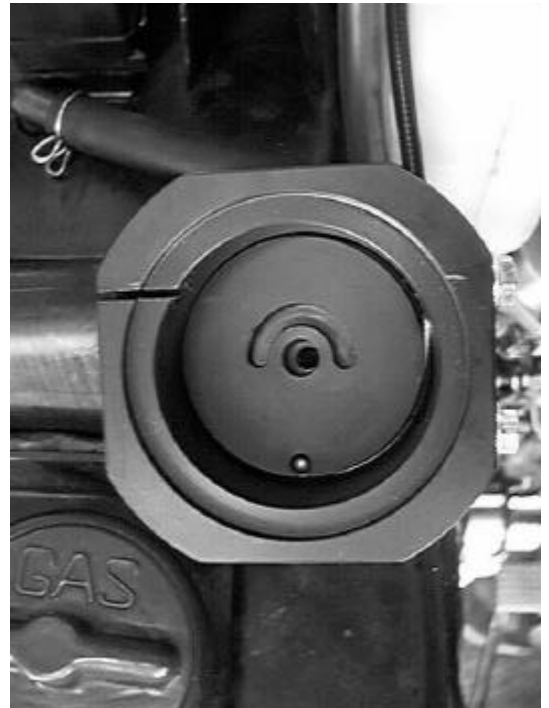
Honda Goldwing GL1200 ©

Loosen the lock screw in the actuator cable hole. Insert the cable all the way into the hole with the lock screw until the cable contacts the shoulder in the hole. Gently tighten the lock screw to retain the cable. Push the cable in and out to check that it moves freely.

Route the actuator cable so that it sits between the coolant tank filler neck and the radiator connecting hose, the between the two electrical black boxes mounted in front of the coolant tank.



Place the ball nipple on the actuator cable in the hole in the thin actuator spool and place the spool in the CIU with the semi circular groove facing up. Rotate the spool clockwise to fully extend the cable.



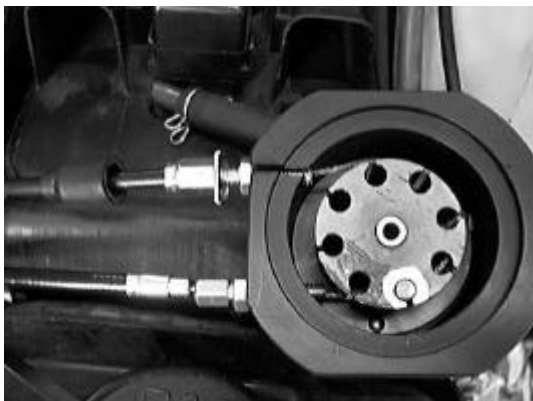
Screw the adjuster on the end of the carburettor cable all the way into the un-slotted hole in the CIU. The cable should form a smooth curve up around the OUTSIDE of the frame tubes to the CIU.

Place the ball nipple on the carburettor cable into the marked hole on the roll pin side of the dual spool and place the spool in the CIU while ensuring that the roll pin engages in the groove in the actuator spool. Push the bush through both spools.



The pull cable from the hand grip (the one you disconnected earlier) must be re-routed slightly. Withdraw the cable, by pulling it from the hand grip end, enough to re-route it under the top left frame tube and inside the loom and earth (ground) wires as shown in the photo. The cable was originally routed next to the push cable. This cable is still in its original position and is shown in the photo a little below the pull cable.

The last few threads on the adjuster are flattened during manufacture to prevent the lock nut coming off. This section of damaged thread will make it difficult to thread the adjuster into the CIU. Run the lock nut over this section of thread a few times to repair the threads then run the lock nut back up the adjuster.



Route the cable to the CIU and insert the nipple into the marked hole on the top side of the dual spool. Wrap the cable anti-clockwise around the spool and insert the adjuster into the slotted hole. Screw the adjuster into the CIU until the end of the adjuster just protrudes through the inside wall of the CIU and gently tighten the lock nut.

Place a flat washer under the head of the CIU through bolt and insert the bolt into the CIU from underneath the CIU.



Place the end cap on the CIU and place a flat washer and the Nyloc nut on the bolt and tighten gently.

Adjusting the carburettor cable.

Using the adjuster on the carburettor cable at the CIU, adjust the cable until there is 1~3mm (1/16"~1/8") of free movement in the cable before the carburettors start to open. This can be checked by pulling the cable out of the adjuster at the CIU as shown in the photo.

Make sure the cable is seated correctly in both adjusters (the CIU and carburettor ends) when performing this adjustment.



Tighten the lock nut GENTLY.

NOTE: - There must be at least 10mm (3/8") of the adjuster thread still screwed into the CIU. If correct free play cannot be achieved without screwing the adjuster out further than this (**maximum 19mm or 3/4"** of thread **outside** the CIU, from the **CIU face** to the end of the thread, (**NOT** from the **face of the lock nut** to the end of the thread) then the CIU must be disassembled and the ball nipple on the cable moved anti-clockwise to the next hole in the dual spool to take up some of the excess length.

NOTE:- The procedure just described sets the free play between the carburettors and the cruise control actuator. Too little free play will prevent the carburettors returning to idle. Too much free play will effect the response of the cruise control. Once set the free play should **NOT BE MOVED** again, unless an incorrect setting is suspected. Free play in the throttle grip should be adjusted using the adjusters in the throttle cable from the hand grip only, not the new carburettor cable.

Adjusting the throttle grip free play.

Using the in-line adjuster in the throttle cable and the adjuster at the throttle grip end of the cable, set the free play at the grip so that there is 1~3mm (1/16"~1/8") free movement at the outside diameter of the grip. Take up most of the free play with the in-line adjuster as this adjuster has a lot of travel. Take up the last small amount of free play with the adjuster at the throttle grip. Do not remove all the free play as this will put too much tension on the cables and cause them to bind. This will prevent the cruise control working correctly as well as damaging the cables.

Check that the throttle 'snaps' shut when released. Check that this occurs in the straight ahead position as well as full left and full right turn of the handlebars.

If the throttle does not snap shut check for possible sources of friction in the cables, the hand grip and the carburetors and linkages and check that there is enough free play in the throttle grip.

Seal the slot in the CIU with a small amount of silicone sealant such as Silastic sealant.



Sensor magnet installation.

The speed sensor magnet assembly replaces one of the rear brake disc mounting nuts.

Remove one of the rear brake disc mounting nuts.

Because of the potential for variable heights of the brake disc mounting studs, it is necessary to check that the magnet assembly will fit correctly, and the correct number of washers be placed under the nut when the magnet is installed. The following procedure will determine how many washers to use.

Place the magnet assembly on the disc mounting stud and hand (DO NOT USE A SPANNER) tighten until it bottoms. Inspect the face next to the disc closely and determine if the nut has bottomed on the face of the disc or if the end of the stud has contacted the magnet. The depth of the cavity in the nut should be the same as the height of the stud. If the stud contacts the magnet first, check the gap under the face of the nut to the disc.

If the gap is less than 0.5mm (0.020") use one flat washer under the nut.

If the gap is greater than 0.5mm (0.020") remove the nut and place a 8mm flat washer on the stud, then screw the nut back on BY HAND. If the nut bottoms on the washer this is OK. If the magnet bottoms on the stud you will need to use two washers.

After determining how many washers to use, place a drop of medium strength thread lock compound, such as Loctite 243, on the stud and install the washer/s and the magnet assembly.

Tighten the nut to 35-40 N.m (25-29 ft.lb) using a torque wrench.

Rotate the wheel by hand and check that there is at least 2mm (0.080") clearance between the outside face of the magnet and any stationary components (brake caliper mount etc).



Speed sensor installation.

Remove the axle pinch bolt from the left side of the swing arm and store the bolt as it will not be re-used.

Place an 8mm flat washer on the head of the M8 x 45 high tensile bolt provided in the kit, place the bolt through the hole in the sensor bracket and place a stack of five 8mm flat washers on the bolt.

Place the sensor assembly on the swing arm so that the locating tags sit in either side of the swing arm and tighten the new pinch bolt. Observe the bracket as you tighten the bolt. It should just contact the weld on the end of the swing arm. If the bracket bends significantly while the bolt is being tightened, you will need to install more washers. If the bracket does not contact the swing arm, remove washers until the bracket contacts the swing arm.

Tighten the axle pinch bolt to 27 N.m (19 ft.lb)

Checking the sensor gap.

Check the clearance between the face of the magnet and the face of the sensor. The gap should be 3~6mm (1/8"~1/4"). This can be checked by passing twist drills between the magnet and the sensor.

If the gap is too large, add washers between the bracket and the sensor. If the gap is too small remove washers between the sensor and the bracket. If this does not give enough range of adjustment, the bracket can be bent to achieve the correct gap.

Installing the control switch.

The control switch is mounted on a bracket that sits between the bottom faces of the clutch lever assembly mounting clamp.

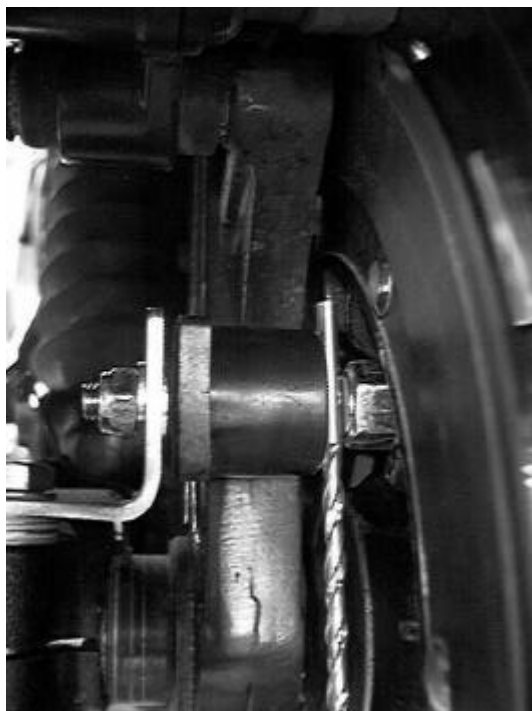


Remove the two screws that secure the clutch lever assembly clamp to the handlebar and remove the clamp.

File 1.0 ~ 1.5mm (0.040"~0.060") from the **bottom** face of the clamp. The easiest and quickest way to do this is by mounting the clamp in a vice using soft jaws or a rag and use a flat file to remove material from the bottom face. The new surface must be flat, and parallel to the original surface.

Replace the clutch assembly clamp with the switch bracket between the bottom faces of the clamp. The wires from the bikes switch block can be routed either side of the switch bracket. The photo shows the wires covering the bracket.

Tighten the bottom screw first, then the top screw. Check that there is a small gap between the top faces of the clamp. If there is not, make sure that the clutch lever is securely clamped to the handlebar. If not remove the clamp and file off some more material.



Honda Goldwing GL1200 ©

Route the switch wire down the handlebar with the other wires and hoses and cable tie in a couple of places.

Route the wire with the other wires under the steering head cover then down and back inside the left fork leg.

Route the wire down the left side of the frame. The plug should rest near the in-line cable adjuster in the pull throttle cable.

Installing the computer.

Note: - Some versions of this motorcycle have a seat adjustment release lever on top of the fuel tank. If your bike has this refer to the addendum on page 28 for computer mounting details.

Clean the top of the fuel tank in the area between the front seat mount and the filler cap with methylated spirits (wood alcohol).

Peel the paper of the two self adhesive pads on the underside of the computer and place it on the tank so that the side sits against the seam in the tank and the front of the computer is about 50mm (2") behind the fuel filler spill tray.

Check that the three position sensitivity switch (the small slide switch to the left of the 12 pin plug) is in its middle, medium (M), position. The other positions are low (L) and high (H). You will notice that the label has L, M & H marked on it.



Installing the wiring loom.

Computer connection.

Plug the 12 pin computer plug into the computer. The latch goes to the bottom.

Switch connection.

Route the loom to the left behind the fuel filler spill tray and under the drain hose, then forward on the left side of the spill tray, through the loop formed by the carburettor cable, then forward to the switch wire plug.

Connect the switch wire to the loom.



Earth (ground) connection.

Remove the bolt with the earth (ground) wire under it, and place the earth connector (green wires) on this bolt.



Actuator connection.

Route the actuator wire (red/black/white) wires forward and down to the actuator and connect the three actuator wires.

Draw the wires back up and cable tie the wires to the frame and ensure that there is **no possibility** of the wires being chafed by any sharp edges.



Power and brake sensor connection.

Route the power and brake sensor wires (brown and orange feed wires with white and green link wires) to the right side of the bike across the front of the fuel filler spill tray.

Locate the rear brake light switch plug. It is a two pin plug that is located under the front right corner of the fuel filler spill tray. The wires going to it at the motorcycles loom should be white with a green trace and green with a yellow trace. The wires from the brake light switch may or may not be the same colours. If you cannot locate the plug, follow the wires up from the rear brake light switch.

Disconnect the rear brake switch plug. Plug the matching connectors on the cruise control loom into the free ends of the plugs. The cruise loom will bridge the connection and take power and brake signal to the cruise control.

Tuck the wires back into the space under the CIU and the fuel spill tray.



Speed sensor connection.

Route the speed sensor wire down inside the frame beside the fuel tank towards the bottom front corner of the battery.

Route the wire around the front of the frame cross tube that is at the bottom front corner of the battery and just above the front of the swing arm.

Route the wire back along the top of the swing arm with the rear brake fluid hose, then around the outside of the shock absorber bottom mount.

Route the wire across to the sensor and connect the two wires. If does not matter which wire goes to which terminal.

Draw and excess length back up to the are in front of the battery.

Cable tie the wire to the swing arm on in front of and behind the bottom shock absorber mount.

Cable tie the wire to the brake fluid line in at least two places.



Cable tie the wire to the frame tube running diagonally forward and up from the battery.

Installing the Electronic Clutch Switch (ECS).

How the ECS works.

The electronic clutch switch (ECS) is not a true switch, but is a device that monitors the rate of gain of engine speed and also the absolute speed of the engine by monitoring ignition pulses. If the switch detects a rapid increase in engine speed, such as when the clutch is disengaged while throttle is applied, the ECS will activate and disengage the cruise control. The switch does not respond to a decrease in engine RPM. For example, if the motorcycle is travelling down a hill with the cruise engaged and no throttle applied, and the clutch is disengaged by the rider, the engine speed will drop to idle. The ECS will not disengage the cruise control. When the speed of the bike drops to the set speed the cruise will apply throttle. Only when the engine speed starts to increase will the ECS detect the change, and then disengage the cruise.

The switch will detect the engine speed increase and switch off the cruise by the time the engine has gained 1,000 ~ 2,000 RPM. How high the engine revs above the initial 1,000~2,000 depends on how much throttle the cruise has applied at the time. If the throttle is open a significant amount, such as when travelling up a hill, the time taken for the throttle to return to idle position may mean the engine gains a lot of revs when the clutch is pulled in.

If the cruise has only applied a small amount of throttle the rate of change in the engine speed may be so slow that the ECS will not detect it at all. The engine may reach redline or beyond if the rate is slow enough, although this is unlikely. For this to occur the engine would have to take 5 seconds or more to go from idle to redline. On high revving motorcycles (sports engines) the ECS should activate regardless before redline is reached as the engine speed exceeds the inbuilt limits of the ECS.

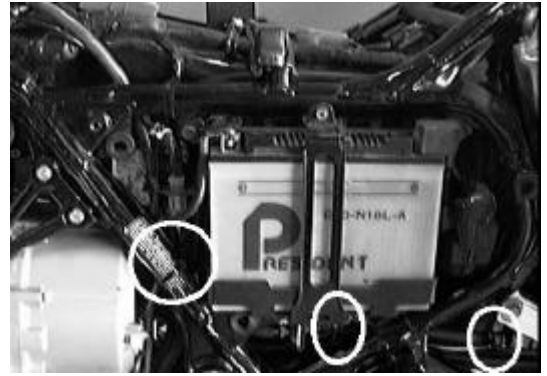
Fitting the ECS

Note: - Some versions of this motorcycle have a seat adjustment release lever on top of the fuel tank. If your bike has this refer to the addendum on page 28 for ECS mounting details.

Mount the switch beside the cruise control computer on the fuel tank. Clean the tank with methylated spirits (wood alcohol) and mount the switch with small self adhesive pads supplied in the kit.

Route the orange and purple wire back and around to the left to the cruise control computer and connect the two pin plug to the matching plug on the short wires coming out of the computer plug.

The green earth wire with the eye connector should be attached under the head of the bolt that attaches the front seat mount or another 6mm bolt that will provide an earth (ground).



The yellow ignition sensor wire should be run forward with the cruise loom to the left hand ignition coil which is directly behind the steering head. The coil has two wires going to it, one blue with a yellow trace and one black wire with a white trace. Remove the blue/yellow wire and place the yellow ignition sensor wire on this terminal. Plug the blue/yellow wire on to the 'piggy back' spade on the sensor wire terminal. If the coil wire is not blue/yellow, find out which wire to the coil is the 'active



- Ensure that all the wires are routed neatly and cable tie if required.
- Reassemble the bike taking care when installing the top compartment cover (dummy fuel tank) not to jam or distort the new carburettor cable or the throttle cable.

8. DIAGNOSTIC MODE OPERATION

Your cruise control comes with a means of making it operate the throttle without the speed sensor detecting movement. This is the best way to check that the electrical and mechanical operation of the cruise control is working properly - excluding speed control circuits.

Note:- During the diagnostic checks many of the features of the cruise control are confirmed by the LED (light) on the computer operating. For example, brake switch operation is confirmed by the LED. The LED only stays on for a few seconds with most operations. If the brake pedal is pushed, the LED will come on. If the pedal is held after a few seconds the LED will go out. If the pedal is released and re-applied, the LED will come back on, and then turn off after a few seconds. **THIS IS NORMAL AND DOES NOT INDICATE A FAULT IN THE SPEED CONTROL.** This applies to most operations performed in diagnostic mode.

- Turn the cruise control ON/OFF switch to OFF;
- Turn the ignition switch ON but DO NOT start the engine. Check that the kill switch is also ON.
- Depress and hold the SET key while turning the cruise control ON;
- Take your finger off the SET key;
- Pull the front brake lever and depress the rear brake pedal a few times. The LED on the computer should illuminate when EITHER lever is used. This indicates that the cruise control will cancel when the brakes are applied. If the LED does not come on, the most likely cause is incorrect adjustment of the brake switches. If either of the switches is adjusted so that it does not turn OFF at all, the light WILL NOT COME ON AT ALL. It is then necessary to adjust the switch so that it turns OFF when the brake is released. IF THE BRAKE SWITCH OPERATION IS NOT CONFIRMED BY THE LED OPERATING ON THE COMPUTER NOTHING ELSE WILL WORK ON THE CRUISE CONTROL. See the next section.
- Now tap the SET key once while listening for a click from the vacuum actuator and watching the red LED on the front of the computer. You should hear the click and see the LED flash. Depress and hold the SET key. The LED should come on a stay on while the SET key is depressed and regular clicks should be heard from the actuator.
- Now tap the RES key once while listening for a click from the vacuum actuator and watching the red LED on the front of the computer. You should hear a slightly different sounding click and see the LED flash. Depress and hold the RES key. The LED should come on a stay on while the RES key is depressed and regular clicks should be heard from the actuator.

- Turn the cruise control power switch OFF;
- Start the bike in neutral;
- Depress and hold the SET key while turning the cruise control ON;
- Take your finger off the SET key;
- Now tap the set key once while listening for a click from the vacuum actuator and watching the red LED on the front of the computer. If you hear the click and see the LED flash, tap the SET key a few more times until the revs start to rise. Depress the RES key and the revs will drop. Some delay occurs with these operations.

CAUTION: You need to be careful not to tap the SET key too many times as it is easy to over-rev the engine if you tap it too often. If the engine revs too fast quickly turn off the cruise control switch OR the bike's KILL switch. If the ECS (electronic clutch switch) is working correctly it should protect the engine by shutting off the cruise control before such high revolutions are reached;

CAUTION: IT IS VERY EASY TO OVER-REV THE BIKE IN THE NEXT STEP - SO BE CAREFUL!

- When you are sure single taps work, depress and hold the SET key for a couple of seconds and see if multiple pulses are sent to the actuator. Listen for clicks and look at the LED.

Checking the speed sensor: With the cruise in diagnostic mode, put the bike on the centre stand with the engine running, engage 4th or 5th gear and carefully accelerate the engine until the rear wheel is spinning at 60 or 70 kph (45+ mph). Observe the LED on the computer to see it flashes regularly. It should flash quite slowly at these speeds - at 1-2 second intervals.

Checking the ECS: With the cruise in diagnostic mode with the engine running, observe the red LED indicator on the clutch switch and the LED on the computer. Quickly rev the engine by 'blip' LED's should illuminate briefly as the engine reaches 2,000~3,000 RPM if the engine starts from idle.

The slower the rate of increase of revs, the higher the revs required to make the LED light. A quick blip should result in the LED coming on at about 2,000~2,500 RPM. A slow increase in revs may not see the LED coming on until 4,000 RPM or more. When the LED's come on it indicates that the cruise control will be cancelled.

Using the bike's throttle raise the engine speed to the same revs that would be used at typical 'cruising speed' ie about 100kph (60mph), typically 3500~4000 RPM. The LED on the ECS should come on. Hold the engine speed constant. The LED should turn off after 5~20 seconds.

If the LED does not turn off after 30 seconds, the cruise control may not work and the sensitivity of the switch may need to be adjusted. The adjustment procedure is described in Section 12, Road Test and Adjustments.

NOTE: Remember to wait at least 5 seconds after turning the cruise control off when in diagnostic mode to then use it in cruise control mode – otherwise it stays in diagnostic mode. It takes time for the capacitor which protects the computer from surges in the power supply to discharge fully.

9. MANUAL ADJUSTMENTS TO THE BRAKE PEDAL AND FRONT BRAKE LEVER

Since the brakes are the fastest way to turn the cruise control off, it is ESSENTIAL that they be adjusted optimally to suit the rider AND that they activate the rear brake lamp as quickly as possible. It is recommended that both front and rear brakes be set up so that the brake lamp turns on as early as possible when either brake is applied. Naturally you have to ensure that the brake lamp does turn off - otherwise the cruise control will not work at all. Careful adjustment of the foot brake lever so that the rider's foot does not have to lift up to reach it is recommended. Next, adjust the brake switch so that it turns on with very little movement of the brake pedal. Repeat this process with the front brake lever.

It is recommended you adjust the rest position of the **gear lever** to the foot brake lever for optimum rider comfort.

NOTE: IF THE REAR BRAKE LIGHT FILAMENT OR FUSE BREAKS, OR THE BRAKE LIGHT IS ON, THE CRUISE CONTROL WILL NOT WORK AT ALL. IF YOUR CRUISE CONTROL APPEARS NOT TO BE WORKING, THESE ARE THE FIRST THINGS TO CHECK.

10. OPERATING INSTRUCTIONS

Although your cruise control has many operating features, it has been designed to be very easy to operate. Its operating range is from about 40kph (not recommended) to approximately 180kph (also NOT recommended).

The cruise control operates by monitoring the road speed of the bike and uses a computer to maintain any 'set' speed within its operating range. The computer is instantly de-activated by either front or rear brake lever pressure sufficient to turn on the brake lights.

All commands are input using the three switches on the switch block.

The functions performed by each key are as follows:

ON/OFF Switch

The OFF-ON switch is a slide switch and 'enables' the SET/ACC (Set/Accelerate) and RES/DEC (Resume/Decelerate) keys when turned ON. The SET/ACC and RES/ACC switches are activated by depressing them. Turning the OFF-ON switch OFF disables the cruise control.

SET key - maintains bike speed or produces acceleration

The SET key has four functions:

1. When the bike is in motion within the cruise control's operating range, depressing and releasing the SET key sets the computer to maintain the speed at the time the SET key was depressed;
2. While the cruise control is controlling the bike's speed, firmly but quickly tapping the SET key increases the set speed by about 2kph for each tap. Six (6) taps in rapid succession increases the set speed by approximately 10kph. Different bikes respond slightly differently. Experiment until you find out precisely how your bike responds;

3. While the cruise control is controlling the bike's speed, depressing and holding the SET key results in the bike smoothly accelerating until the SET key is released (or until the bike achieves the cruise control's maximum operating speed - this is not recommended). The rate at which acceleration takes place is a function of the power of the bike and the position of the sensitivity switch [Refer to section 10] on the cruise computer;
4. Used in conjunction with the ON/OFF switch, it puts the cruise control in 'diagnostic mode'.

While riding the bike, the cruise control can be set to a higher speed by:

- a. Opening the throttle and pressing the 'SET' key after the required speed is reached;
- b. Tapping the 'SET' key to progressively accelerate the bike;
- c. Depressing and holding the 'SET' key until the required speed is reached.

RES key - resumes the bikes previously set speed or decelerates the bike.

1. If the cruise control has been controlling the bike's speed and has been deactivated using the brakes AND the cruise control or engine have not been turned off, depressing and releasing the RES key causes the cruise control to return to its previously set speed;
2. If the cruise control **is controlling** the bike's speed, tapping the RES key decelerates the bike by approximately 2kph per tap;
3. If the cruise control **is controlling** the bike's speed, depressing and holding the RES key down, decelerates the bike until it is released or the bike slows beyond the cruise control's operating range. Releasing the key sets the computer to the current speed.

- NOTE:**
1. **If the bike's speed drops below 75% of the SET speed, the cruise control deactivates by itself. This could happen on a very steep incline, but is very uncommon on large capacity bikes. If it does, simply accelerate using the throttle and SET the cruise control again.**
 2. **If the bike's speed increases to 150% of the SET speed, the cruise control deactivates by itself. This can happen when accelerating to pass a car. If it does, simply decelerate using the throttle and SET the cruise control again.**

11. SAFETY ISSUES & FEATURES

Electrical 'Noise'.

Noise is a broad term used to describe the electromagnetic radiation of energy. Noise is generated during rapid changes in voltage or current levels or by radio transmitters (ignition systems, alternators, mobile phones and other heavy current carrying wires). If noise gets coupled into the cruise control wiring harness it can create disturbances within the cruise control computer. The cruise control may drop out after engagement or not engage at all, but still pass all diagnostic tests.

The most likely causes of electrical noise interference on a motorcycle is faulty spark plug leads or fitment of non suppressed spark plug leads, or the electrical system could be in poor repair due to age or lack of appropriate preventative maintenance.

WARNING: - It is ESSENTIAL that the spark plug leads are radio suppression type leads and that they are in good condition. Inspect the spark plug leads for any cracks, and replace if required. All original equipment high-tension ignition leads, in optimal condition, should be acceptable, but the cruise control MUST NOT BE FITTED IF AFTERMARKET SOLID CORE HIGH TENSION LEADS ARE FITTED.

Ideally all cruise control wiring should be kept as far as possible from all high voltage and high current wiring. This is often difficult to achieve on a motorcycle due to space limitations, so it is important to FOLLOW THE WIRING HARNESS INSTALLATION INSTRUCTIONS CAREFULLY.

WARNING: - Make sure that the bike's battery and charging system are in good condition and the battery electrolyte levels are correct and the battery connections are clean and tight. The battery acts as an electrical 'buffer' and absorbs electrical spike energy and stabilises voltage in the electrical system.

'CruiseSafe' actuator power relay.

As an additional safety measure, MotorCycle Setup has developed a new component for use on motor cycle cruise controls; the CruiseSafe actuator power relay.

The MotorCycle Setup 'CruiseSafe' actuator power relay cuts power to the cruise control throttle actuator (throttle servo) whenever the brake is applied. This innovative safety device is unique to the MCS product range and demonstrates the company's dedication to building product to the highest possible levels of safety, quality and reliability.

The 'CruiseSafe' cut off is a simple relay incorporated into the brake circuit so that when the brake light switch operates, power to the cruise control actuator is shut down.

WARNING: - In order to stop the motor cycle in the event of cruise control electrical malfunction, simply pull on the brakes. This will instantly remove power to the cruise control actuator.

WARNING: - In the event of a major malfunction, the cruise control may re-apply the throttle when the brakes are released. If this occurs, disconnect the loom computer plug from the cruise control computer until the cause can be found and remedied.

WARNING: - Any erratic behaviour (cruise control disengages at random or it fails to engage without resetting by turning the ignition switch off and back on) from the cruise control should be regarded as suspicious. The cruise control computer should be disconnected until the cause can be found and remedied. Contact us immediately in the event of any unusual behaviour.

The 'CruiseSafe' protects you against accidental damage to the wiring loom or any sort of electrical failure or interference in the cruise control electronics causing a malfunction, because whenever the brakes are applied, the cruise control actuator is disconnected from power by the open relay.

Honda Goldwing GL1200 ©

Its operation is failsafe, which means that if you lose power to the brakes, the brake light globes blow, a wire becomes disconnected or the 'CruiseSafe' relay fails, the power to the cruise control actuator is disconnected. The ONLY electrical failure it cannot protect against is if the brake light switch/s fail. Then you must turn the cruise control and the bike OFF using the bike's engine kill switch or ignition switch to kill the engine.

MotorCycle Setup has chosen to use a mechanical relay instead of an electronic device, because electrical interference cannot hinder its operation. Also, in the unlikely event of the relay failing, it is a standard automotive part used by major auto companies, and is readily available from auto electricians and auto spare parts outlets around the world. Fitting is simple. Just unplug the failed unit and plug the new one into the socket on the wiring loom.

There is no periodic maintenance required for the CruiseSafe relay. If the relay fails, simply undo the tape around the base of the relay and the relay socket, unplug the relay and replace with a new relay. We suggest that you re-tape the relay to the socket.

CAUTION: - The relay must be replaced with a relay of the same pin configuration and it must have a resistor-suppressed coil. If a relay without a resistor-suppressed coil is used, you will damage the cruise control computer. This will not be covered by warranty.

This relay is a common automotive relay and should be readily available from most automotive electrical outlets.

NOTE: - If the bike is fitted with a flasher device on the brake light system this may cause interference with the cruise control brake detection. If the cruise control will not work try disconnecting the flasher device. Contact us for ways to enable both your brake light flasher and the cruise control.

Other safety features.

The cruise control can be shut off by any of the following methods:

- a. Depressing either brake pedal/lever;
- b. Sliding the ON/OFF switch to the OFF position;
- c. Decelerating to 75% of the set speed;
- d. Accelerating to 150% of the SET speed;
- e. Pulling in the clutch lever to trigger the ECS;
- f. Pressing the kill switch on the engine;
- g. Turning off the ignition key.

The cruise control will disengage if any of the connectors become separated, if the brake light filament breaks or the brake lights lose power - for example if a fuse blows.

There are numerous safety features designed into the computer and throttle actuator to ensure that should one or more components fail there is still a way to turn off your cruise control.

For safe and economical motoring NEVER operate this or any cruise control in:

- congested or heavy traffic;
- on wet or slippery roads.

WARNING: Your cruise control is designed with numerous safety features, but only the motorcycle **KILL SWITCH** or the **IGNITION KEY** can overcome a runaway condition caused by a tangled or jammed carburettor linkage. Our patented Cable Interface Unit has been specifically designed to eliminate the possibility of such an event. Without it, it is virtually impossible to **SAFELY** fit a cruise control to most motorcycles.

Regular inspection of control cables is recommended to prevent jamming of the throttle, which could occur if cables were frayed or damaged.

12. ROAD TEST AND ADJUSTMENTS

Your cruise control comes pre-adjusted from the factory and if installed properly should provide satisfactory performance on most bikes. To determine whether adjustment is necessary, perform the following road test:

1. Slide the ON/OFF switch to the on position;
 2. Hold the SET key down and slowly accelerate the bike from 30kph to 50kph using the throttle. The cruise control should take over at about 40kph;
 3. Depress one of the brake levers to turn the cruise control off;
 4. Use the throttle to accelerate the bike up to 80kph and press the SET key. The cruise control should engage and smoothly maintain speed within 2kph;
- If the cruise control loses speed when engaged or is sluggish, increase the sensitivity adjustment by setting the sensitivity switch on the computer to the 'H' (High) position;
 - If the cruise control gains speed when engaged or is erratic, decrease the sensitivity adjustment by setting the sensitivity switch on the computer to the 'L' (Low) position.
 - MotorCycle Setup recommends you use the MEDIUM sensitivity switch position for high torque engines. These engines can produce rapid, unexpected and uncomfortable acceleration when controlled by the cruise control computer in high sensitivity mode.



Testing the electronic clutch switch.

The ECS switch may be road tested by setting the cruise on a suitable speed (ie. 60kph or 35 mph) while on a level road or slight uphill, and pulling in the clutch. The engine will rev higher initially but should drop quickly (within 1/2 second) back to idle. If this takes longer than this, check that there is no excess friction in the throttle mechanism that is slowing down the throttle and not allowing it to 'snap' shut.

The sensitivity of the switch is adjustable. The bottom of the box may be opened by releasing the two catches next to the wire entry hole. Beside the wire connection plug on the circuit board there is a black plastic 'jumper' block. This is a bridging connector to allow the two pins to be connected. This may be connected or disconnected from its pins to tailor the way the switch responds. Bridging the pins decreases the switches sensitivity. This may be appropriate on fast revving sports engines. Disconnecting the pins increases the sensitivity. This is appropriate on slower revving touring engines. Try both settings to see what is suitable for your engine.

- The switch is supplied on the most sensitive setting with the jumper disconnected. The jumper is installed on one pin. The jumper may be removed, using a pair of long nose pliers, and then re-installed on both pins to decrease the sensitivity of the switch.
- If you cannot get the cruise to work at higher speeds jumper the pins to decrease sensitivity. If the switch takes too long to work, disconnect the pins to increase sensitivity.
- This completes the adjustment procedure.

13. TROUBLE SHOOTING, TESTING AND SELF-DIAGNOSTICS

See the attachment for detailed instructions.

WARNING: The computer, switch block and other components are water resistant - NOT WATERPROOF. When washing the bike avoid spraying or pouring water directly onto any component. It is recommended the switch be covered during washing.

The staff at MotorCycle Setup hope you enjoy using your new cruise control and use it wisely and safely. Remember that cruise controls are not a licence to concentrate less while riding. We recommend you approach all other road users with greater care when using the cruise control and use substantially larger safety margins when riding in traffic. Its use in built-up areas is not recommended.

You will probably find using the cruise control a bit disconcerting at first until you get used to the throttle moving under your hand and the slight 'hunting' (acceleration and deceleration) of the bike downhill. It is not possible to eliminate the latter effect as the computer continuously attempts to balance its set speed with the road speed.

NOTE: Practice turning the cruise control off quickly so that you will be ready for any emergency. Experience suggests touching the footbrake is the best and quickest way to turn the cruise control off.

If by chance you are not holding the right handlebar when you need to make an emergency stop, the first reaction is to grab the front brake and clutch. In doing so, you may inadvertently hold the throttle open depending on how much throttle the cruise control had applied at the time. If this happened the engine revs would rapidly rise because the clutch was disengaged. You may think the cruise control is malfunctioning. Release your grip on the throttle and the bike should return to idle. The best way to avoid this occurrence is to practice rolling the throttle off whenever you use the front brake.

14. RIDING TIPS

The cruise control engages most smoothly when the engine is under load. We recommend SETTING or RESUMING cruise operation while holding a constant speed. Maintain speed using the throttle: a) for a couple of seconds after pressing the SET key to allow time for the cruise control to take up cable free play; and b) until you feel the cruise take over after pressing RESUME.

ADDENDUM TO INSTRUCTIONS

Mounting the computer on bikes equipped with seat adjustment release lever.

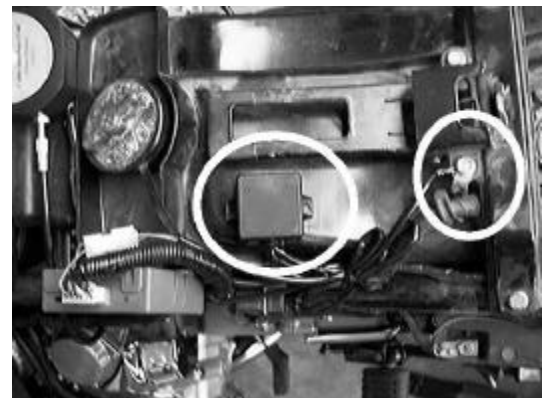
- The computer can be attached to the side of the fuel spill tray as shown in the photos using double sided self adhesive foam tape or similar material.



- Connect the loom plug to the computer as shown.
- Return to P17 of the instructions for loom routing.

Mounting the ECS on bikes equipped with seat adjustment release lever.

- Mount the switch on the fuel tank as shown. Clean the tank with methylated spirits (wood alcohol) and mount the switch with small self adhesive pads supplied in the kit.
- Route the orange and purple wire to the cruise control computer and connect the two pin plug to the matching plug on the short wires coming out of the computer plug.
- The green earth wire with the eye connector should be attached under the head of the bolt that attaches the front seat mount.
- Return to P19 of the instructions.

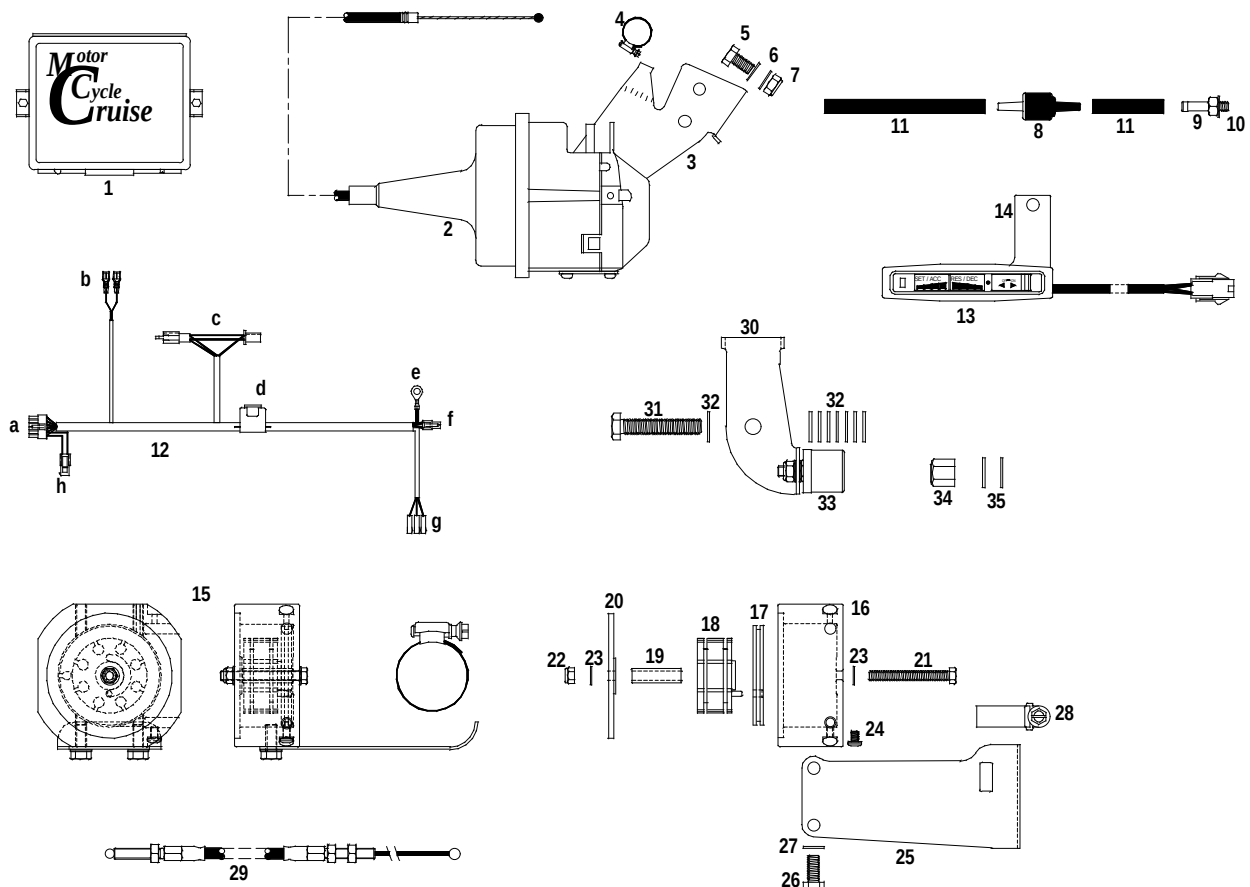


HONDA GL1200 Gold Wing**Part list for MCS 1340 kit**

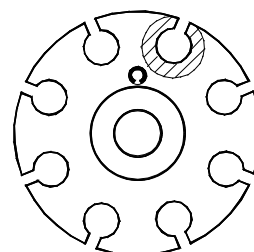
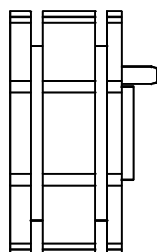
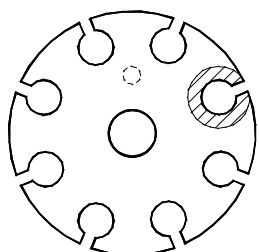
Item	Qty	Part Number	Description
1	1	MCS 1340C	Computer
	2	MCS 030	Self adhesive pad
	1	<u>MCS 1343</u>	<u>Vacuum actuator assembly</u>
2	1	MCS 020	Vacuum actuator
3	1	MCS 1343A	Mounting bracket
	3		6g x 3/8" pan head self tap screws
4	1	Hose Clamp 6	Hose clamp
5	1		M6 x 12 bolt (to re-mount horn)
6	2		6mm flat washer (to re-mount horn)
7	1		M6 Nyloc nut (to re-mount horn)
	1	<u>MCS 1347</u>	<u>Vacuum hose assembly</u>
8	1	MCS 032	Vacuum stop valve
9	1	MCS 051	Vacuum port fitting
10	1	MCS 051A	Fibre washer
11			4mm Vacuum hose
12	1	MCS 1342	Wiring loom
a			Computer plug (12 pin)
b			Speed sensor connectors
c			Brake switch and power connectors (Green and white link wires, brown and orange feed wires)
d			Fuse holder (3 amp fuse)
e			Earth connector (green wires)
f			Switch plug (4 pin)
g			Actuator plugs (Red, black, white wires)
h			ECS plug (orange and violet wires)
		<u>MCS 1344</u>	<u>Switch assembly</u>
13	1	MCS 019	Switch
14	1	MCS 004MH	Switch bracket
	2		2 gauge x 1/2" pan head self tap screw
15		<u>MCS 1345</u>	<u>Cable Interface Unit (CIU) assembly</u>
16	1	MCS 1345A	CIU housing
17	1	MCS 003M	Actuator spool
18	1	MCS 1346	Dual spool
19	1	MCS 003H	Bush
20	1	MCS 003J	End Cap
21	1		M5 x 45 bolt
22	1		M5 Nyloc nut
23	2		5mm plated flat washer
24	1		M4 x 6 pan head screw (actuator cable retainer)
25	1	MCS 1345B	CIU mounting bracket
26	2		M6 x 16 bolt
27	2		6mm flat washer
28	1	Hoseclamp 24	Hose clamp
29	1	MCS 1348	Carburettor cable

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	1	MCS 1341	Speed sensor assembly
30	1	MCS 1341A	Speed sensor bracket
31	1		M8 x 45 high tensile bolt
32	8		8mm plated flat washers
33	1	MCS 027	Speed sensor
	1		M6 Nyloc nut
	2		6mm plated flat washer
34	1	MCS 073	Sensor magnet assembly
35	2		8mm plated flat washer
	10		150mm cable ties
	6		200mm cable ties
	1	MCS 1340ECS	Electronic clutch switch
	2	MCS 028B	Self adhesive pads
			Instructions
			Trouble shooting guide
			Warranty sheet



Dual Spool Hole Marking



Honda Goldwing GL1200 ©

MOTORCYCLE SETUP PTY. LTD.

12 MONTH CONSUMER SATISFACTION GUARANTEE REGISTRATION

Please keep this card and your receipt in a safe place. Copies of both are required if warranty service is needed.

Name: _____

Address: _____

Telephone Number: _____

Item Model Number: _____ MCS1340 _____ Date Purchased _____

Name of Retailer: _____

Installed By: _____

Year, Make and Model of Motor cycle: _____

I have read the warranty agreement below and accept its terms.

Customer signature: _____

Warranty service requires a copy of the sales receipt.

12 MONTH WARRANTY

MotorCycle Setup Pty. Ltd., 7 Moritz Street, Box Hill, Victoria 3128, hereby warrant that it will repair or replace to the original purchaser products which prove to be defective under normal use and service in workmanship or material.

MotorCycle Setup obligation under this warranty is limited to the repair or replacement of the product at its option without charge for parts and labour at its warehouse located at the above address at Box Hill, when the product is returned with postal charges prepaid and examination of the product shall disclose it not to have been defective in the respects aforesaid during the warranty period.

The repairs or replacements will be made promptly and the repaired unit will be returned with all postal charges prepaid.

Coverage under this warranty is limited to the original purchase of the product at retail. When requesting warranty service a copy of the sales receipt or guarantee card must be submitted.

The warranty period for cruise controls is limited to a period of 12 months from the date of purchase. No warranty is implied for the installation and therefore MotorCycle Setup will not be responsible for installation or re-installation charges.

Warranty does NOT apply to electrical globes and perishable rubber products.

This warranty does not apply to products or equipment or components used in conjunction with the cruise control.

Warranty does not cover unauthorized repairs, improper installation or application, damage or misuse or product which has not been maintained or used in accordance with the operating specifications as set forth in the written instructions.

The warranty term shall not extend beyond its original term with respect to subsequent warranty replacement.

Under no circumstances shall MotorCycle Setup be liable for consequential damages or breach of this warranty or for any implied warranty.

MotorCycle Setup neither assumes nor authorizes any person to assume for it or any obligation or liability other than herein expressly stated.

MOTORCYCLE SETUP CUSTOMER SERVICE POLICY

You will receive free consultation on any problem you might encounter in the assembly or use of MotorCycle Setup products. Just drop us a note, email us at mcsetup@bigpond.net.au or give us a call on +61 3 9808 2804.

You can obtain parts directly from MotorCycle Setup by writing to us or from your dealer. Use your packing list to describe your requirements.

If you are not satisfied with our service or with our products, write direct to the Managing Director, MotorCycle Setup Pty. Ltd., 7 Moritz Street, Box Hill, Victoria, Australia, 3128. He will make certain your problem receives immediate personal attention.

The benefits conferred by this guarantee are in addition to all other rights and remedies in respect of the product, which the consumer has under the Trade Practices Act, and other State and Territory Laws.

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